21B. One (1) tank drainage valve

22B. One (1) Spray – boom protection cover, adjustable for the precise guidance of the air and whirlstream and the UV – irradiation

PATENT CLAIMS

1. Method and technical application for the protection of crops to control attacks of fungus, yeast, bacteria, virus and insects by means of dipole- electrical air-jet spray-technology, ozonated water, anorganic wetting agent and UV-C light irradiation.

2. Spray-method for the protection of crops according to claim 1 characterized in that the technical application consists of two spray-systems.

3.Spray-methode characterized in that the first spray-system according to claim 2 serves for the pre-moistening of plants with negatively charged water with a wetting agent containing the following technical main-parts:

- 3-point mounted chassis with frame and tank holding device

- insulated water tank

- electrical transformer

- Anode in water tank with connection cable and security

- lateral telescopic spray booms with special air- and water nozzles including pipings.

- UV-C lamps with electrical conducts

- water pressure-pump with pressure valves and manometers, and controls and handles, connected through pipes with the water-tank and spray-booms.

- Air-blower or air-compressor with controls, connected through pipes to the air-nozzles on the spray-booms for whirling of the spray-fog.

- PTO driving-shaft or electrical drive

- reverse pressure- and drainage-valves with handles

- Spray-boom cover, adjustable

4. Spray-method characterized in that the second spray-system, according to claim 2, serves for the spraying of ozonated water and contains the following technical main-parts :

- 3-point mounted chassis with frame and tank holding device, or pulled trailer-chassis

- insulated water tank

- lateral telescopic spray-booms with special air- and water-nozzles including pipings or water-spray turbine

- UV-C lamps with electrical conducts

- water pressure-pump with pressure valves and manometers, controls, and handles, connected through pipes to the water-tank and the spray-booms

- air-blower or air-compressor with controls, connected through pipes to the air-nozzles on the spray-booms, for whirling of the spray-fog

- PTO driving-shaft or electrical drive

- reverse pressure- and drainage-valves with handle

- spray-boom cover, adjustable

- electrical generator with control board

- ozonated water-pump

- air-separator for oxygen-production

- ozone generator with cathodic discharge

- venturi valve

- turbine-mixer for ozone

- ozone gas adjuster

- ozone-concentration measurement device

5. Spray-method for the protection of crops according to any one of the claims 1, 2 and 3, characterized in that all parts of the plants are pre-wetted with negatively charged water and a wetting agent by a first spray-device.

6. Spray-method for the protection of crops according to one of the claims 1, 2 and 4,

characterized in that all parts of the plants are sprayed with dipole- ozonated water by a second spray-device.

7. Spray-method for the protection of crops, according to one of the claims 1 to 4 characterized in that the moistening water from tank 1 and the ozone containing water from tank 2 are whirl-sprayed on the plants by air-jet whirl-stream out of special air-nozzles, created by an air-turbine or air-blower or air-compressor.

8. Spray-method for the protection of crops, according to one of the claims 1 to 4, characterized in that both spraying devices are containing in full length UV-C lamps attached under the spray-booms, which are creating, in addition to the electro-magnetic direct irradiation, highly reactive oxidative hydroxy radicals in the fog, which have an efficient biocidal effect and which are reinforcing with the hurdle-principle the biocidal impact of the ozone treatment.

9. Spray-method for the protection of crops, according to one of the claims 1 to 4, characterized in that all boom-sprayers are equipped with an adaptable spray-boom cover in such a way, that the spray process, respectively the direction and the effect of the spray-application and the UV-C light irradiation can be adapted (angle of inclination) according to the needs.

10. Biocidal application for the protection of crops according to one of the claims 1 to 9 for their protection and for the destruction of fungus, yeast, bacteria, virus, spores, insects and other pests and their eggs on crops with the aid of ozonated water and UV-C irradiation and under the influence and the support of air-whirl-stream, electrical charged water and an inorganic moistening agent.